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USWAG

February 27, 2003

**BY FACSIMILE AND ELECTRONIC MAIL**

Comment Clerk, OSWER Docket  
Docket No. RCRA-2002-0033  
United States Environmental Protection Agency  
Mail Code 5305G  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

Re: Comments on Draft Subsurface Vapor Intrusion Guidance  
Docket No. RCRA-2002-0033

Dear Sir or Madam:

We are pleased to respond to EPA's request for public comment on the Draft Guidance For Evaluating The Vapor Intrusion to Indoor Air Pathway From Groundwater and Soils (Subsurface Vapor Intrusion Guidance) (the "Guidance") on behalf of the Utility Solid Waste Activities Group ("USWAG"). See *Notice of Draft Subsurface Vapor Intrusion Guidance*, 67 Fed. Reg. 71,169 (Nov. 29, 2002). USWAG is an informal consortium of the Edison Electric Institute ("EEI"), the American Public Power Association ("APPA"), the National Rural Electric Cooperative Association ("NRECA"), and approximately 80 electric utility operating companies located throughout the country. EEI is the principal national association of investor-owned electric power and light companies. APPA is the national association of publicly-owned electric utilities. NRECA is the national association of rural electric cooperatives. Together, USWAG members represent more than 85 percent of the total electric generating capacity of the United States and service more than 95 percent of the nation's consumers of electricity and over 93 percent of the nation's consumers of natural gas.

USWAG member companies own and operate hundreds of facilities around the country, some of which are the subject of remedial action to address environmental contamination. Many of these sites include or are located near indoor structures and, therefore, USWAG members will be directly affected by the application of EPA's draft Guidance. Since EPA guidance is often incorporated by states into regulatory requirements, USWAG is particularly concerned that EPA carefully consider and respond to the issues raised by USWAG and other commenters.

In submitting these comments, USWAG hereby joins in and adopts the comments, recommendations and technical analysis provided by the American Petroleum Institute ("API") in comments filed by Harley H. Hopkins, P.G. on February 27, 2003 ("API's Comments")(attached hereto). While USWAG joins API's Comments in their entirety, we would also like to highlight and supplement several points that are of particular concern to USWAG members.

**1. API's Comments Related To Sites Contaminated With BTEX Compounds Apply Equally To Sites Contaminated With Any Biodegradable Petroleum Hydrocarbon Compounds.**

Petroleum hydrocarbons are a primary contaminant of concern for USWAG members at sites such as service centers with underground storage tanks ("USTs") and other sites with petroleum and petroleum-derived hydrocarbon contamination, such as manufactured gas plant ("MGP") sites. API's Comments raise number of valid issues and recommendations with respect to BTEX contaminated sites that are applicable to sites contaminated with any biodegradable petroleum hydrocarbon compounds. For example, API's Comments state that

"[a]ttenuation due to biodegradation of compounds such as BTEX, (which are universally recognized to readily biodegrade in the subsurface) is not considered in the conceptual model nor the calculated screening levels used in this guidance. Thus, using this guidance at a BTEX-only site will produce many false positives resulting misallocation of regulator and industry resources and unwarranted concerns from homeowners who will ultimately be affected by unnecessary in-home sampling events. . . .

. . . There is sufficient information in the literature that when viewed collectively, convincingly demonstrates that the vast majority where petroleum hydrocarbons are present in groundwater at some distance below the building foundation, the risk to vapor intrusion is low. A BTEX-only guidance would be more appropriate for communicating the conditions that pose risks (e.g., high ambient background concentrations, and petroleum products in direct contact with buildings or utilities that enter buildings). A BTEX-only guidance could employ screening criteria developed from an analysis of an empirical database on BTEX sites and allow a range of options for assessing vapor attenuation, using multiple lines of evidence and techniques such as hydrocarbon and O<sub>2</sub> soil gas profiling. . . .

. . . In order to clarify the real intent of the guidance, API recommends that the Agency state that the guidance and the screening levels are not intended for application at BTEX-only sites. This type of statement will help dissuade other regulatory programs (e.g., state voluntary cleanup and UST programs) from inappropriately adopting the current guidance that is oriented towards

chlorinated compounds. Because the Agency has chosen to include biodegradable petroleum hydrocarbons such as the BTEX in Tables 2 and 3, API is convinced that the Agency will be placed in a difficult position defending an empirical screening approach for BTEX in any future UST-oriented or BTEX-only guidance while these overly-conservative screening values are “on the books.”

API's Comments, Section 1 at p. 2.

These and other related comments and concerns expressed in API's Comments on the application of the Guidance at sites contaminated with BTEX compounds apply equally to *any* site contaminated with biodegradable petroleum hydrocarbon compounds. As such, USWAG requests that when EPA considers API's comments, recommendations and technical information related to BTEX sites that the Agency also consider those same comments as applicable to all sites that are contaminated with biodegradable petroleum hydrocarbon compounds.

## **2. The Guidance Should Not Be Used To Evaluate Vapor Intrusion From Petroleum Hydrocarbon Contamination.**

EPA acknowledges that the conservative assumptions recommended by the Guidance are not appropriate for sites contaminated with petroleum and petroleum products. Guidance at p. 2. As a result, the Agency recommends against using the Guidance at sites with petroleum releases from USTs. *Id.* As the Agency states, “EPA acknowledges that there are many unique issues specific to petroleum releases from underground storage tanks. EPA is forming an EPA-State working group to further study the behavior of petroleum and petroleum products in the subsurface associated with the vapor intrusion pathway.” *Id.*

USWAG agrees with EPA's recommendation that the Guidance should not be used to evaluate the vapor intrusion risk of petroleum releases, but questions EPA's rationale for limiting that recommendation to only UST sites. Many other sites have petroleum or petroleum-derived hydrocarbon contamination that is indistinguishable in characteristic and risk from petroleum released at UST sites. For example, MGP sites often have subsurface petroleum or petroleum-derived hydrocarbon contamination that is similar to that encountered at leaking UST sites. There is no basis for EPA to exclude the Guidance for evaluating the risk of vapor intrusion from petroleum hydrocarbons at UST sites, while at the same time recommending that the Guidance be applied to evaluate the vapor intrusion risks from petroleum hydrocarbon contamination at all other similarly situated sites that do not have USTs. EPA has provided no rationale whatsoever for treating non-UST sites with petroleum hydrocarbon

contamination differently under the Guidance. As such, USWAG requests that EPA revise the Guidance to recommend that the Guidance not be used to evaluate vapor intrusion from petroleum hydrocarbon contamination at *all* sites, not just UST sites.

USWAG's request is supported by the data on petroleum hydrocarbons in EPA's own Vapor Intrusion Database. As discussed in API's Comments, the Agency's database indicates that subsurface petroleum hydrocarbons do not cause detectable indoor air impacts through vapor intrusion. API's Comments, Section 3 at pp. 3-7. EPA's database indicates that indoor air concentrations of petroleum hydrocarbons are consistent with background indoor air concentrations measured at unimpacted sites. *Id.* In addition, EPA's database (as well as additional data submitted by API) indicates these indoor air concentrations are not correlated with petroleum hydrocarbons in groundwater. *Id.* While this data supports EPA's recommendation that the Guidance should not be applied to assess petroleum releases at UST sites, it also supports USWAG and API's request that the Agency extend its recommendation to exclude the use of this Guidance to assess the vapor intrusion risk of *all* petroleum hydrocarbon contamination, regardless of whether it happens to be located at a UST site.

Furthermore, EPA itself admits that additional study is needed to understand the behavior of petroleum and petroleum products in the subsurface associated with the vapor intrusion pathway. Guidance at p. 2. USWAG agrees with this conclusion and believes that it is at best premature to apply the Vapor Intrusion Guidance to petroleum hydrocarbon contamination at all non-UST sites. EPA's Vapor Intrusion Database includes data points collected from only 15 sites in five states. See Guidance at p. F-1. Moreover, out of 274 data points collected at these sites, only 35 represent petroleum hydrocarbon compounds. *Id.* The rest of the data points represent chlorinated compounds. *Id.* USWAG believes that this limited empirical data for petroleum hydrocarbons is simply not a sufficient basis to apply the Guidance (and its conservative assumptions) to all non-UST sites with petroleum hydrocarbon contamination. This conclusion is particularly relevant in light of other technical studies discussed by API which involve a larger number of data points (e.g., 59 versus 35) that confirm that petroleum hydrocarbons do not pose a risk of detectable air impacts. See API's Comments, Section 3 at p. 3-7.

In light of the limited data collected on petroleum hydrocarbons, USWAG supports the Agency's intent to form a work group to further study the unique issues associated with the risk of vapor intrusion from petroleum and petroleum products in the subsurface. Moreover, USWAG strongly believes that that Guidance should be revised to recommend that the Guidance not be used to assess the risk of vapor intrusion from petroleum hydrocarbon contamination until such further study is complete and properly evaluated.

**3. The Agency Is Unreasonably Discounting Evidence Of The Biodegradation Of Petroleum Hydrocarbons In The Unsaturated Zone.**

USWAG strongly believes that EPA has, without explanation, ignored evidence of the biodegradation of petroleum hydrocarbons in the vadose (unsaturated) zone. In the Guidance, EPA completely fails to account for the sorption of petroleum hydrocarbons in the unsaturated zone, a process which is well documented in the scientific literature. See API's Comments, Section 2 at p. 11. USWAG believes that EPA's failure to consider evidence of biodegradation is a significant flaw that that will have a direct and unfair impact on the regulated community. As API correctly points out, EPA's failure in the Guidance to consider vapor attenuation due to biodegradation will result in an overestimated number of petroleum hydrocarbon sites needing further site-specific evaluation. *Id.* As a result, these sites will be unreasonably subject to more stringent assessment requirements under the Guidance. For these reasons, should the Agency decide to continue to recommend the Guidance to assess vapor intrusion risks from petroleum hydrocarbon contamination, USWAG requests that the Agency revise the Guidance to properly account for the biodegradation of petroleum hydrocarbons in the unsaturated zone.

**4. EPA Should Clarify That Its Vapor Intrusion Data Collection Request Will Be Structured To Maintain The Anonymity Of Participating Companies And Facilities.**

Under the Guidance, EPA requests that data collected in site specific assessments be submitted electronically to an EPA repository that will be established by OSWER. Guidance at p. 39. The repository will be used to develop a database that will be analyzed in an ongoing effort to refine the Guidance. *Id.* EPA ultimately plans to make this database available on OSWER's website. *Id.* USWAG applauds EPA's effort to build its database on vapor intrusion. We are concerned, however, that unnecessary disclosure of company or facility-specific identifying information will unfairly subject participants to groundless complaints and claims and, therefore, will discourage the voluntarily disclosure of vapor intrusion data. As such, USWAG requests that EPA consider clarifying its data collection request to make clear that vapor intrusion data will be submitted to and handled by EPA in a manner that maintains the anonymity of participating companies and facilities.

**5. EPA Overstates The Potential Risk Associated With "Significant" Preferential Pathways For Buildings More Than 100 Feet From The Contamination.**

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Under the Guidance, EPA's recommends that buildings located 100 feet laterally or vertically from the contamination be considered for vapor intrusion assessment. Guidance at p. 17. USWAG joins API's criticism of the 100 foot boundary as overly conservative. See API's Comments, Section 2 at p. 3. EPA itself admits that this distance is conservative. Guidance at p. 17. However, in addition to recommending the conservative 100 foot boundary, EPA adds a further recommendation that all buildings with "significant" preferential pathways be evaluated even if they are over the 100 foot distance from the contamination. Nevertheless, EPA fails to provide any justification for this additional requirement beyond the theoretical conclusion that all "significant" preferential pathways beyond the 100 foot boundary pose a risk of vapor intrusion. This additional recommendation substantially overstates the risk associated with "significant" preferential pathways and should be removed from the Guidance.

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We appreciate the Agency's consideration of these comments. If USWAG can be of further assistance to EPA in this effort or can respond to any questions, please contact the USWAG Executive Director, James Roewer (202-508-5645) (jim.roewer@uswag.org).

Very truly yours,



Stephen L. Pattison  
Chairman, Utility Solid Waste Activities Group